What Is Claimed Is:

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1. Wavelength stabilizing apparatus for use in stabilizing the wavelength of a tunable laser to a target wavelength, the wavelength stabilizing apparatus comprising:

a wavelength measuring module for detecting the difference between the instantaneous wavelength of the laser and the target wavelength, and for generating an output signal which is representative of the same; and

a control unit for receiving said output signal from said wavelength measuring module and for modifying the electrooptical performance of the laser's gain medium in accordance with said output signal so as to lock the tunable laser to its target frequency.

2. Wavelength stabilizing apparatus according to claim 1 wherein the tunable laser is an electrically pumped laser, and further wherein said control unit is adapted to adjust the injection current applied to the

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laser's gain medium so as to modify the electrooptical performance of the laser's gain medium.

3. Wavelength stabilizing apparatus according to claim 1 wherein said tunable laser is an optically pumped laser, and further wherein said control unit is adapted to adjust the intensity of the pump laser applied to the laser's gain medium so as to modify the electrooptical performance of the laser's gain medium.

4. Wavelength stabilizing apparatus according to claim 3 wherein the pump laser is an electrically pumped laser, and further wherein said control unit is adapted to adjust the injection current applied to the gain medium of the pump laser so as to modify the electrooptical performance of the tunable laser's gain medium.

5. A laser system comprising:

a tunable laser; and

wavelength stabilizing apparatus for use in stabilizing the wavelength of said tunable laser to a target wavelength, said wavelength stabilizing apparatus comprising:

a wavelength measuring module for detecting the difference between the instantaneous wavelength of the laser and the target wavelength, and for generating an output signal which is representative of the same; and

a control unit for receiving said output signal from said wavelength measuring module and for modifying the electrooptical performance of the laser's gain medium in accordance with said output signal so as to lock the tunable laser to its target frequency.

6. A method for stabilizing the wavelength of a tunable laser to a target frequency, said method comprising:

detecting the difference between the instantaneous wavelength of the laser and the target

wavelength, and generating an output signal which is representative of the same; and

modifying the electrooptical performance of the laser's gain medium in accordance with said output signal so as to lock the tunable laser to its target frequency.